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Large Coating, Printing and	PROCESSED BY	GS
Aerospace Operations Team	REVIEWED BY	SMKE
APPLICATION PROCESSING AND CALCULATIONS	DATE	12/5/07

PERMIT TO CONSTRUCT/OPERATE EVALUATION

Applicant's Name

INTERNATIONAL PAPER CO

Company I.D.

008488

Mailing Address

1350 E. 223RD ST.
CARSON, CA 90745-4381

Equipment Address

1350 E. 223RD ST. CARSON, CA 90745-4381

EQUIPMENT DESCRIPTION

APPLICATION NO. 470881

Title V minor permit revision

APPLICATION NO. 470882 (new, P/C- P/O)

LAMINATOR, QUAD FOLD END AUTOMATIC MULTI-FOLDS, KLIPPENSTEIN CORPORATION, MODEL KLM-2006, 6'-3 1/4" W. X 33'-6 5/8" L. X 6'-3 3/4" H.

BACKGROUND/HISTORY

International Paper submitted a/n 470882 for a new laminator to increase facility production efficiency. The facility will use three of the same adhesives in this laminator that it currently uses in the permitted corrugator (A/N 458845) and the flexo folder-glueers. These are cold-set adhesives: RESYN 29-9802 and Ultra-set 33-197A. In addition, this equipment will use hot melt adhesive called Cool-lok 34-867A which has no VOC. The facility may use different adhesives with small variations in the formulations when necessary; however the facility agrees to comply with all the TAC emission limits proposed in this permit.

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Currently this facility operates under a facility-wide VOC emission limit of 136 lbs/day. District Rules 1168, 1171 and 1401 apply to this operation. The VOC content of adhesives to be used on the laminator does not exceed 5% by weight. The facility is requesting no individual VOC emission limit for this equipment to allow operational flexibility. They will continue to operate under the existing facility-wide VOC emission limit. As a result, public notice will be required under Rule 212(g).

International Paper is a Title V facility. The Initial Title V permit was issued to the facility with an effective date of May 29, 2005. This is the second revision since the initial Title V permit was issued. A/N 470881 was submitted for minor permit revision.

A correction will also be made to the facility permit for the corrugator under A/N 458845; P/O F84816. This corrugator is subject to Rule 1128 instead of Rule 1168 as currently stated (reference memo dated July 7, 1993 from Fred Lettice regarding Rule 1128 clarification). The adhesive is applied by a roller in a film over the cardboard. The adhesives comply with the Rule limit of 2.2 lb/gal – the actual VOC content is less than 5 g/l, well below the rule limit. In addition, the recordkeeping condition for the six of the seven flexographic printing presses (A/Ns 458847, 458848, 458849, 458850, 458852, 458853) and the corrugator (A/N 458845) will be updated to clarify the requirements and to be consistent with the recordkeeping condition imposed for the laminator.

The District's compliance database shows no NOVs, no N/Cs and no records of nuisance complaints for this facility in the last two years. During the last inspection on 8-17-07, the facility was found in compliance with all District rules and regulations.

PROCESS DESCRIPTION

International Paper manufactures corrugated containers which are used in packaging of different consumer items. The box manufacturing operation involves manufacturing of corrugated board (cardboard), printing on it, and gluing it together. There are several active permits issued to this facility for flexographic printing presses, a boiler, a storage silo, an adhesive mixing system and a corrugator.

The laminator uses stock boards manufactured by the corrugator at this facility to produce these boxes. The corrugated stock is moved on the laminator. A few drops of hot melt (i.e., COOL-LOK) adhesive which is gravity fed from a electrically heated container are added as a "tack" on the edges of the board. Then the cold set adhesive is applied to the remainder of the surface. The hot melt is extruded out of a gun as a 3/16" bead of glue. The cold-set adhesive is applied in the same manner. There is no air atomizing or spraying of any kind. There are no gas heaters on this equipment. After the adhesive is applied, the board is folded. Electric motors are used to compress the boards. This is the final product. After this, they are stacked onto a pallet and unitized for shipping.

Operating Schedule: Average = Maximum: 24 hr/day, 6 day/week, 50 weeks/year

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EMISSIONS

Materials used on the laminator will result in VOC and TAC emissions.

The facility has requested the emissions from this equipment be bubbled in to the existing facility cap of 136 lbs/day of VOC.

AEIS is 50% of NSR

VOC

AEIS R1 = 2.83 lbs/hr, R2 = 2.83 lbs/hr

NSR R1 = 5.66 lbs/hr, R2 = 5.66 lbs/hr, 30-day average = 0

Rule 1401 TAC Emissions:

In order to allow the facility to use similar products from different manufacturers (where slight variations in formulations occur) and allow production flexibility to meet different customer requests, conditions will be imposed specifying individual TAC emissions in pounds per year. The TIER III screening dispersion model was performed based on the annual TAC emission limits to be imposed as permit conditions. These TAC limits will allow flexibility in adhesive usage and flexibility to use different formulations.

In the laminator, the facility will use cold-set adhesives called RESYN 29-9802 and Ultra-set 33-197A. They will also use a hot-melt adhesive called Cool-lok which has no VOC or TAC. The VOC of adhesive 29-9802 is estimated to be less than 0.0167 lbs/gal (2.0 gms/liter). The VOC of Ultra-set 33-197A is 0.00191 lbs/gal. The MSDS for these two adhesives lists no TAC but the facility requested National Starch and Chemical Company, the adhesive manufacturer, to provide the TAC content for adhesives 29-9802 and Ultra-set 33-197A which are to be used in the laminator. A letter from the manufacturer is on file. The concentrations are listed as below:

The cold-set adhesive 29-9802 contains the following TAC:

Rule 1401 TAC	CAS Number	Concentration in PPM determined by the manufacturer
Acetaldehyde	75-07-0, carcinogen, chronic	<10
Formaldehyde	50-00-0, carcinogen, chronic, acute	58
Methanol	67-56-1, chronic, acute	150
Vinyl Acetate	108-05-4, chronic	<10

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The adhesive ULTRA-SET 33-197A used in the laminator has not been tested, however the sister product ULTRA-SET 33-034A was analyzed with the following results.

Rule 1401 TAC	CAS Number	Concentration in PPM determined by the manufacturer
Methanol	67-56-1, chronic, acute	145

A TIER III analysis was previously performed on the corrugator and verified that the maximum risk is less than 1 in a million and hazard indices for acute and chronic risk are less than 1 for this equipment. This risk analysis included two other TACs that will not be emitted from this equipment, therefore the risk will be even lower. A permit condition limiting these TAC emissions (lbs/yr) will be imposed based on the maximum emissions and are summarized below.

Laminator			
Rule 1401 TAC compound	CAS Number	TAC emissions (lbs/yr permit condition)	TIER III (lbs/hr)
Acetaldehyde	75-07-0, carcinogen, chronic	90	1.27E-02
Formaldehyde	50-00-0, carcinogen, chronic, acute	515	5.88E-02
Methanol	67-56-1, chronic, acute	6000	6.85E-01
Vinyl Acetate	108-05-4, chronic	8000	9.13E-01

RULES/REGULATION EVALUATION

RULE 212, PUBLIC NOTIFICATION

SECTION 212(c)(1):

This section requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. This facility is not located within 1000 feet from a school, therefore, these applications will not be subject to the public notice requirements under this section.

SECTION 212(c)(2):

This sections requires a public notice for all new or modified equipment and facilities, which have emission increases exceeding any of the daily maximums as specified in subdivision (g). There are no emission increases from this facility due to this project, therefore public notice will not be required.

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SECTION 212(c)(3):

This section requires a public notice for all new or modified sources, which have on-site emission increases resulting in a cancer risk of more than 1 in a million. Please see Rule 1401 section. MICR is less than 1×10^{-6} and HIA and HIC are below one, public notice is not required.

SECTION 212(g):

This section requires a public notice for all new or modified sources resulting in an emission increase exceeding any of the daily maximum specified in the table below. As shown in the following table, the emission increases of VOC exceed the threshold. As a result, public notice will be required by this section.

LB/DAY	CO	NOX	PM₁₀	ROG	Lead	SOX
MAX. LIMIT	220	40	30	30	3	60
INCREASES	0	0	0	136	0	0

RULES 401 & 402, VISIBLE EMISSIONS & NUISANCE

Visible emissions and odors from this equipment are not expected with proper maintenance and operation. There are no complaints or notices for visible emissions, odors or nuisance issued in the last two years for this facility. Compliance is expected.

▫ **RULE 1168, PAPER, FABRIC AND FILM COATING OPERATIONS**

▼ **SECTION (c)(2), VOC CONTENT OF COATINGS**

The VOC content (less water and exempt solvent) of the 29-9802 adhesive is 0.0167 lbs/gal and the VOC content (less water and exempt solvent) of 33-197A is 0.0191 lbs/gal; both of which comply with the rule limit of 0.417 lbs/gal (50 g/l). Therefore, compliance is expected.

▫ **RULE 1171, SOLVENT CLEANING OPERATIONS**

The clean-up materials used are water and soap solutions in the laminator. These do not contain any VOC. Thus, compliance is expected.

REGULATION XIII

▫ **RULE 1303(a), BEST AVAILABLE CONTROL TECHNOLOGY (BACT)**

This equipment complies with BACT requirements by use of low VOC adhesives (less than 5% by weight VOC, and clean-up solvents with no VOC. A permit condition will be imposed limiting VOC content to 0.1 lbs/gal as applied, including water and exempt solvent, and zero VOC clean-up.

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▣ **RULE 1303(b) (1), MODELING**

There is an increase only in VOC emissions from this project. No detailed modeling analysis is required for VOC emissions.

▣ **RULE 1303 (b) (2), EMISSION OFFSETS**

There is no increase in VOC from this facility due to this project, therefore no offsets are required. Facility will continue to operate under the facility cap of 136 lbs/day.

▣ **RULE 1401, NEW SOURCE REVIEW OF CARCINOGENIC AIR CONTAMINANTS**

As discussed in the report above, the toxic emissions from this equipment are expected to comply with the provisions of this rule. Tier III analysis shows MICR from the laminator is below 1×10^{-6} , and HIA/HIC from the laminator is below 1. This complies with the Rule requirements.

REGULATION XXX:

This facility is not in the RECLAIM program. The proposed project is considered as a “minor permit revision” to the Title V permit for this facility.

Rule 3000(b)(12)(vi) defines a “minor permit revision” as any Title V permit revision that does not result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP).

The proposed project is not expected to result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP), and therefore is considered as a “minor permit revision” pursuant to Rule 3000(b)(12)(A)(vi).

This proposed project is the 2nd permit revision to the initial Title V permit issued to this facility on May 29, 2005. The following table summarizes the permit revisions since the initial Title V permit was issued:

Revision	HAP	VOC	NOx	PM ₁₀	SOx	CO
1 st Permit Revision: Change of permit conditions for a/n 458845, 458847, 458848, 458849, 458850, 458852 and 458853	0	0	0	0	0	0
2 nd Permit Revision: Add laminator under A/N 470882; correct rule applicability on corrugator under A/N 458845, and clarify recordkeeping condition on six flexographic printing presses (A/Ns (A/Ns 458847, 458848, 458849, 458850, 458852, 458853) and the corrugator (A/N 458845)	0	0	0	0	0	0
Cumulative total	0	0	0	0	0	0
Maximum Daily Threshold	30	30	40	30	60	220

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CONCLUSIONS/RECOMMENDATIONS

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “minor permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003 (j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility.